UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/877,040	06/11/2001	Mohan Kalkunte	108339-00071	9814

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SQUIRE, SANDERS & DEMPSEY L.L.P.
14TH FLOOR
8000 TOWERS CRESCENT
TYSONS CORNER, VA 22182

EXAMINER
PHAN, TRI H

ART UNIT	PAPER NUMBER
2661	

DATE MAILED: 11/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/877,040	KALKUNTE, MOHAN
	Examiner	**Art Unit**	
	Tri H. Phan	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____ .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-13* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-13* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *09/07/2004*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____ .

DETAILED ACTION

Drawings

1.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they

do not include the following reference sign(s) mentioned in the description:

       a) A reference "10" which stands for a switch-on-chip (SOC) 10 as described in page 8

paragraph [0059] of the specification, is not shown in Fig. 1 of the drawing.

       b) A reference, which stands for an increment expression in Fig. 8, cannot be read since it

is overlapped by a border line of a block containing the reference.

       Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to

the Office action to avoid abandonment of the application. Any amended replacement drawing

sheet should include all of the figures appearing on the immediate prior version of the sheet,

even if only one figure is being amended. The replacement sheets should be labeled

"Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion

of the drawing figures. If the changes are not accepted by the examiner, the applicant will be

notified and informed of any required corrective action in the next Office action. The objection

to the drawings will not be held in abeyance.

Specification

2.   The lengthy specification has not been checked to the extent necessary to determine the

presence of all possible minor errors. Applicant's cooperation is requested in correcting any

errors of which applicant may become aware in the specification.

3.   The attempt to incorporate subject matter into this application by the U.S. Provisional

Patent Application filed on February 22, 2001 is improper because the Application Number is

missing.

4.   Fig. 42 illustrates the translation between untagged and tagged frames in the Brief

Description of the Drawings (page 8, line 4) is improper, since there is no such a Fig. 42 in the

drawings.

Claim Objections

5.   Claim 1, 2 and 9-10 are objected to because of the following informalities:

Applicant is respectfully suggested to be consistent in using terminologies, for example,

"incoming packet" (claim 1, line 10; claim 2, line 2; claim 9, line 9 and claim 10, line 2) or

"incoming data packet" (claim 1, line 9 and claim 9, line 8). Appropriate correction is required.

Double Patenting

6.   The nonstatutory double patenting rejection is based on a judicially created doctrine

grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or

improper timewise extension of the "right to exclude" granted by a patent and to prevent possible

harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed.

Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686

F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA

1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to

overcome an actual or provisional rejection based on a nonstatutory double patenting ground

provided the conflicting application or patent is shown to be commonly owned with this

application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal

disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37

CFR 3.73(b).

7.   Claim 6 is provisionally rejected under the judicially created doctrine of obviousness-

type double patenting as being unpatentable over claim 1 of copending Application No.

09/877,010. Although the conflicting claims are not identical, they are not patentably distinct

from each other because the claimed invention (claim 1) of the copending Application '010' also

discloses the network switch for network communications, which comprises the first data port

interface supporting data port for transmitting and receiving data at first data rate, second data

port interface supporting data port for transmitting and receiving data at second data rate,

memory management unit for communicating data from first data port interface and second data

port interface and memory, communication channel; wherein the first and second data port

interfaces determine the egress port or egress ports for the incoming data packet based on the

VLAN ID. However, the copending Application '010' claim fails to disclose using different type

switches, e.g. '*first and second type switches*', in communicate with the first and second data

port interfaces. Such claimed features would have been obvious to one having ordinary skill in

the art to be applied on the claimed invention of the copending Application for improving

performance on the stacked linked network switches with multiple types.

This is a <u>provisional</u> obviousness-type double patenting rejection because the conflicting

claims have not in fact been patented.

Claim Rejections - 35 USC § 112

8.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

9.   Claims 2, 6, 8 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

- In regard to claim 2, lines 1-2, the recitation "*said step of modifying the header of said*

incoming packet" is vague and indefinite because it is unclear whether the limitation refers to the

step of "modifying the header of said incoming packet" in line 10 or in line 14 of claim 1.

- Regarding claim 6, line 4, the recitation "*said switch*" is vague and indefinite because it

is unclear whether the limitation refers to "first type switch" or "second type switch".

- In regard to claim 8, line 1, the recitation *"said switch"* is vague and indefinite because

it is unclear whether the limitation refers to "first type switch" or "second type switch".

Claim 8 also recites the limitation *"said higher capacity network switches"* in line 3.

There is insufficient antecedent basis for this limitation neither in the claim 8 nor in claim 6.

- Regarding claim 10, lines 1-2, the recitation *"said means for modifying the header of*

said incoming packet" is vague and indefinite because it is unclear whether the limitation refers

to the means for "modifying the header of said incoming packet" in line 9 or in line 13 of claim

10.

Claim Rejections - 35 USC § 102

10.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United
> States before the invention thereof by the applicant for patent, or on an international application by another who
> has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention
> thereof by the applicant for patent.

11.   Claim 6 is rejected under 35 U.S.C. 102(e) as being anticipated by **Kadambi et al.**

(U.S.6,104,696).

- In regard to claim 6, **Kadambi** discloses in Figs. 1-19 and in the respective portions of

the specification about the system and method for high performance switching packets in the

local area communications networks between ports on trunked network switches (For example

see Figs. 1-2, 14; col. 4, lines 12-23; col. 4, lines 42-47); wherein the fast Ethernet ports 'EPIC'

and the Gigabit Ethernet ports 'GPIC' (*"first and second data port interfaces"*) provide different

transmission rate, e.g. *"first and second data rates"*, Common Buffer Memory Pool 'CBP'

(*"memory"*), Common Buffer Manager 'CBM' (*"memory management unit"*) and CPS channel

(*"communication channel"*) for communicating data and information between ports (For

example see Figs. 1-2; col. 4, line 57 through col. 5, line 19; col. 6, lines 27-42); the ARL engine

of the EPIC module performs look-up the VLAN tag ID (*"resolving the stack tag"*; For example

see col. 17, line 66 through col. 18, line 51) of the incoming data packet for switching between

layer two 'L2' switching or three 'L3' switching based on the data packet's VLAN tag ID (For

example see col. 18, lines 2-10; 39-51; wherein the L2 switching is the *"first type of switch"* and

the L3 switching is the *"second type of switch"*), performs ARL table search based upon source

and destination MAC addresses for modifying the packet according to packet routing rules (For

example see col. 18, lines 4-11; col. 21, lines 32-52) and switching the data to the appropriate L2

or L3 switching (*"forwarding the incoming data packet"*; For example see col. 5, lines 51-56).

Claim Rejections - 35 USC § 103

12.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

13.   Claims 1-5 and 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Kadambi et al. (U.S.6,104,696).

- In regard to claims 1 and 9, **Kadambi** discloses in Figs. 1-19 and in the respective

portions of the specification about the system and method for high performance switching

packets in the local area communications networks between ports on trunked network switches

(For example see Figs. 1-2, 14; col. 4, lines 12-23; col. 4, lines 42-47; wherein the fast Ethernet

ports 'EPIC' and the Gigabit Ethernet ports 'GPIC' provide different transmission rate, e.g. *"first*

and second data rates"); wherein the ingress modules receive the incoming data packets at the

data port of EPIC (*"receive incoming data packets at the data port"*; For example see col. 10,

lines 35-38; col. 18, lines 14-18), the ARL engine performs look-up the VLAN tag ID

(*"resolving the stack tag"*; For example see col. 17, line 66 through col. 18, line 2; col. 18, lines

18-27) for switching between layer two 'L2' switching or layer three 'L3' switching

(*"forwarding to the second type of switch"*; For example see col. 18, lines 2-10; 39-51; wherein

the L2 switching is the *"first type of switch"* and the L3 switching is the *"second type of switch"*),

performs ARL table search based upon source and destination MAC addresses for modifying the

packet according to packet routing rules (*"resolving the destination address and modifying the*

header of the incoming data packet"; For example see col. 18, lines 4-11; col. 21, lines 32-52;

wherein the L2 and L3 switching are *"first and second stacked connections"* in the configuration

of the stacked SOC modules as disclosed in col. 10, lines 22-34); appropriate transfer to the

egress ports of the egress submodule (*"determining and forwarding the incoming data packet to*

egress port"; For example see col. 5, lines 51-56). **Kadambi** fails to explicitly disclose about the

"*another first type switch and another second type switch*". However, **Kadambi** does disclose

about the transferring data packets between the first switch SW1 and the second switch SW2 via

trunk group ("*forwarding the incoming data packet to another second type switch*"; For example

see col. 24, lines 28-38; it is obvious that the L2 switching and L3 switching of the second switch

SW2 are "*another first type switch and another second type switch*" of the configuration of

stacked SOC modules, e.g. "*second and third stacked connections*", when receiving the data

packets sent from the first switch SW1 and reversing the processes disclosed above), using the

trunked ports to increase bandwidth (For example see col. 24, lines 15-28) and high/low

watermark in preventing congestion when transferring with different data rate ("*second and first*

data rate"; For example see col. 28, lines 26-33). Thus it would have been obvious to the person

of ordinary skill in the art at the time of the invention was made to implement the "*another first*

type switch and another second type switch" as the L2 switching and L3 switching of the second

switch SW2 as taught by **Kadambi** to configure the network switches enhancing the efficiency

of transferring data between network switches and utilize methods such as "*modifying header of*

incoming data packet and forwarding to another first type switch" as disclosed above, when

receiving the incoming data packet from the first switch SW1 in the communications networks.

- Regarding claims 2, 8 and 10, **Kadambi** further discloses about the modification of the

packet header ("*adding or removing module header*"; For example see col. 21, lines 32-52) in

applying appropriate configured filters and results by the FFP and ARL engine for switching

between L2 or L3 switching as disclosed in the claims 2 or 10 of the claimed invention, or

transferring data between different configuration switches, e.g. SW1 and SW2, ("*higher capacity*

network switches"; For example see col. 24, lines 15-20) via trunk group as disclosed in the

claim 8 of the claimed invention.

- In regard to claims 3 and 11, **Kadambi** further discloses about the mirror bits 'M bits'

("*mirror field*"; For example see col. 17, lines 63-65) and mirrored port ("*mirroring port*"; For

example see col. 20, lines 15-19) of the layer 2 mirroring as disclosed in col. 5, lines 47-48).

- Regarding claims 4-5, 7 and 12-13, **Kadambi** does discloses about the different data

rates of the Gigabit Ethernet and the fast Ethernet with rate negotiation via the RMII as disclosed

in col. 5, lines 26-36; but fails to explicitly disclosed the second data rate is "*four times*" of the

first data rate or with the specific data rates such as "*10 and 2.5 Gigabits*" for the second and first

data rate. However, selected data rates are depended on system engineering choices in

configuration. Therefore, it would have been obvious to the person of ordinary skill in the art at

the time of the invention was made to implement the specific selected data rate in the

configuration of network switches for transferring data between communications networks.

Conclusion

14.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

Hoffman et al. (U.S.6,094,435), **Haddock et al.** (U.S.6,295,299), **O'Neill et al.**

(U.S.6,442,162), **Viswanath et al.** (U.S.6,798,788) and **Lorenz et al.** (U.S.6,310,882) are all

cited to show devices and methods for improving the switching architecture for high speed data

rate in the telecommunication networks, which are considered pertinent to the claimed invention.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Tri H. Phan, whose telephone number is (571) 272-3074. The

examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,

Arlington, VA, Sixth Floor.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the Technology Center 2600 Customer Service Office, whose telephone

number is (703) 305-3900.

Information regarding the status of an application may be obtained from the Patent

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BRIAN NGUYEN
PRIMARY EXAMINER

Tri H. Phan
November 10, 2004